IMPLEMENTATION OF SOURCE-BASED WASTE SEGREGATION BASED ON BALI GOVERNOR REGULATION NUMBER 47 OF 2019 IN SIANGAN VILLAGE

Anak Agung Gede Bagus Darma Putra[1], Ni Made Jaya Senastri[2], I Wayan Rideng[3]
[1,2,3]Warmadewa University, Indonesia
Corresponding author: Anak Agung Gede Bagus Darma Putra
E-mail: dp947258@gmail.com

Abstract:
The waste management issue in the Province of Bali led to the enactment of Governor Regulation of Bali Number 47 of 2019 concerning Source-Based Waste Management, which emphasizes waste segregation at the household level. This study aims to analyze the implementation of source-based waste segregation in Siangan Village, which has established a Reduce, Reuse, and Recycle Waste Processing Facility (TPS3R), and to identify the inhibiting factors in its implementation. The research applies an empirical juridical method with statutory, conceptual, and socio-legal approaches. Data were collected through document studies and interviews with the Village Head, TPS3R management, and community members. The findings indicate that institutionally, Siangan Village has provided adequate structural and infrastructural support, including the TPS3R facility, a scheduled collection system, and a legal basis through Village Regulation Number 7 of 2022. However, the effectiveness of implementation remains suboptimal due to systemic obstacles such as inconsistent supervision and limited human resources, as well as social constraints reflected in the lack of collective awareness and environmental legal culture. Therefore, optimizing implementation requires strengthening institutional governance and fostering sustainable community awareness.
Keywords: Legal Effectiveness, Waste Management, Source-Based Segregation, TPS3R

INTRODUCTION

The waste problem is becoming an increasingly complex environmental challenge due to population growth, urbanization, lifestyle changes, and the increasing consumption of plastic products in daily activities. These changes in social and economic dynamics have resulted in an increase in the quantity and variety of waste generated, necessitating a renewed approach to its management system. Traditional management patterns that still rely on a collect, transport, and dispose scheme are considered ineffective because they only shift the problem from the source to the final disposal site (TPA) without addressing the reduction aspect upstream (Kalalo, Pontoh, & Pangemanan, 2020). This model tends to increase the accumulation of residue in the landfill and has the potential to pollute the soil, water, and air. Therefore, the transformation to a source-based management system is a strategic urgency to reduce the volume of residual waste while improving the sustainability of environmental management.

In the household sector, plastic waste is a component that has a significant impact on pollution if not separated from the start. The mixture of plastic and organic waste results in suboptimal recycling processes and increases the management burden (Putra, Sugiartha, & Suryani, 2021). This research confirms that low public awareness of waste sorting at the household level directly contributes to the high volume of waste ending up in landfills. A similar trend is evident in the practice of source-based waste management through the Community Service Program (KKN-PPM)

in Kelusa Village, where active community involvement is a key factor in the success of the sorting system (Hartawan & Prasandya, 2023). Therefore, community participation is an essential element in supporting the effectiveness of waste management policies.

At the regional policy level, the Bali Provincial Government issued Bali Governor Regulation Number 47 of 2019, which mandates waste sorting at the source, namely households. This regulation places behavioral change as the foundation of an integrated management system. However, its implementation at the village level is not without challenges. Research by Mahadewi, Rama, and Prasada (2023) revealed that the effectiveness of regulatory implementation is significantly influenced by village institutional capacity and residents' level of compliance with applicable provisions. Furthermore, educational approaches through community training, such as composting house development and eco-enzyme utilization, have been shown to increase community awareness and involvement in the sorting process (Permatananda et al., 2023; Yusnita, Muslikhah, & Harahap, 2022). These findings demonstrate that policy success hinges not only on the existence of legal norms but also on social strategies that support their internalization.

Internationally, numerous studies emphasize that a combination of social, psychological, and institutional factors influences household waste sorting behavior. Social norms, daily habits, perceptions of environmental benefits, and the availability of facilities are variables that play a role in shaping waste segregation behavior (Bernstad, 2014; Alhassan et al., 2020; Zaikova et al., 2022). Household-based interventions through education and mentoring have been shown to increase community compliance with source-sorting systems (Moeini et al., 2023). Furthermore, comprehensive studies show that internal motivation, behavioral control, and local policy support significantly influence the consistency of sorting practices (Apriani, Liquiddanu, & Hisjam, 2025; Luo et al., 2024). Thus, the effectiveness of source-based waste management policies can only be achieved if there is alignment between regulatory substance, institutional capacity, and community legal culture.

Based on this description, this research focuses on examining the implementation of source-based waste sorting in Siangan Village and identifying the factors that hinder its implementation. This analysis is crucial for assessing the extent to which established legal norms can be operationalized in community social practices and how the interaction between regulations, institutional structures, and social behavior influences the effectiveness of village-level policies.

METHODS

This research employs an empirical method, an approach that views law not solely as normative rules enshrined in legislation (law on the books), but also as a living social phenomenon implemented in community practice (law in action). The approaches employed include a legislative approach to examine the regulatory framework, a conceptual approach to understand relevant theoretical constructs, and a sociological approach to analyze the interaction between norms and social behavior.

The research data sources consist of primary and secondary data. Primary data were obtained through direct interviews with the Siangan Village Head, TPS3R managers, and community members involved in waste sorting. Secondary data, meanwhile, came from legislation, academic literature, and scientific journals relevant to the research issue. All data were analyzed using qualitative descriptive techniques with the aim of examining the relationship between applicable legal provisions and the reality of their implementation at the village level.

RESULTS AND DISCUSSION

Implementation of Source-Based Waste Sorting. From an institutional perspective, Siangan Village has initiated management through the establishment of a Reduce, Reuse, and Recycle Waste Processing Facility (TPS3R), equipped with a scheduled collection system and the implementation of sorting at the household level. This scheme reflects the application of the source-based management concept, where households are positioned at the forefront of the waste separation process before entering the subsequent collection and processing stages (Hartawan & Prasandya, 2023). This model demonstrates a transformation in the approach from a reactive to a preventative approach, with an emphasis on reducing residues from the outset to reduce pressure on final disposal sites (TPA). Normatively, this mechanism also aligns with pollution control principles, which emphasize the importance of reducing the volume and classifying waste types before they become mixed and lose their potential for use (Putra et al., 2021).

However, the existence of an organizational structure and supporting facilities does not automatically guarantee effective implementation. The quality of supervision significantly influences institutional performance, the continuity of operational coordination, and the integration of processes from upstream to downstream (Rao, Artayasa, & Permini, 2025). Experience at the landfill management level shows that without synchronization between source sorting, accurate transportation schedules, and a controlled processing system, residue volumes can remain high even with adequate facilities (Rao et al., 2025). Therefore, successful implementation is largely determined by the effectiveness of governance and the system's ability to maintain consistent implementation of each stage within an integrated and sustainable management mechanism.

Systemic Inhibitors. Systemic obstacles in Siangan Village are primarily related to suboptimal supervision consistency and limited human resource capacity to support TPS3R operations. Although a legal basis and clear institutional structure are in place, implementation on the ground still faces challenges in maintaining continuous administrative control and operational discipline. In the context of environmental policy, institutional factors are a crucial determinant of implementation success, as regulatory effectiveness depends heavily on the institution's ability to translate norms into concrete actions (Mahadewi et al., 2023). Therefore, systemic issues are not solely about the existence of regulations, but are closely related to organizational capacity to ensure each stage of management is carried out consistently and measurably (Heykal et al., 2024).

Furthermore, the lack of synchronization between legal norms and implementation practices is also an indicator of weaknesses in policy governance. Studies on environmental law enforcement in household waste management show that well-formulated regulations often encounter obstacles during the implementation stage due to weak oversight and a lack of coordination between implementing units (Kalalo et al., 2020). This situation indicates that the integration of legal substance, institutional structure, and internal control mechanisms heavily influences policy effectiveness. Without strengthening these aspects, source-based waste sorting policies have the potential to remain purely administrative in nature, without achieving optimal impact on reducing residue and improving environmental quality.

Inhibiting Social Factors. Social barriers in Siangan Village play a significant role in determining the successful implementation of source-based waste sorting. Community compliance with waste sorting at the household level is not solely driven by legal provisions, but is strongly influenced by habit patterns, social norms, and individuals' internal motivation for environmental protection (Bernstad, 2014; Zaikova et al., 2022). The long-standing habit of disposing of waste without separating it from the outset presents a challenge in building a consistent source-based system. Findings by Alhassan et al. (2020) show that low ecological awareness is directly proportional to minimal community participation in sorting. Therefore, implementation issues

cannot be viewed solely as technical issues but are closely related to psychological and socio-cultural aspects.

Furthermore, consistency in sorting behavior is also influenced by the level of knowledge, individual attitudes, and policy support at the local level (Apriani et al., 2025). Even if communities understand the obligation to sort waste, without strengthening social norms that encourage collective compliance and effective behavioral controls, sorting practices tend not to be sustainable. Luo et al. (2024) emphasized that social norms and perceived self-efficacy in controlling behavior are important factors in shaping compliance with waste segregation systems. Therefore, formal regulatory approaches are insufficient to create stable and long-term behavioral change.

In the context of social change, community-based educational and empowerment strategies have proven effective in strengthening community behavioral transformation. Interventions focused on the household level have been shown to be effective in improving sorting practices at source (Moeini et al., 2023). Training programs such as composting and eco-enzyme utilization, as well as participatory community activities, contribute to building collective awareness and fostering a stronger environmental legal culture (Permatananda et al., 2023; Yusnita et al., 2022). Thus, the success of implementing source-based waste sorting ultimately depends heavily on the process of internalizing environmental values, strengthening new social norms, and continuously changing community behavior, not just on the existence of written rules.

CONCLUSION

Implementation of Source-Based Waste Sorting in Siangan Village.

a) Institutional Aspects: The village government has established a Reduce, Reuse, and Recycle Waste Processing Facility (TPS3R) along with a Maintenance and Utilization Group (KPP) to manage the system, with a structured system that includes household sorting, scheduled transportation, re-sorting at the TPS3R, and composting and distribution of inorganic waste. Facilities and infrastructure are relatively adequate, but implementation still faces challenges related to consistent supervision, limited human resources, and the suboptimal application of administrative sanctions.

b) Social Aspects: The implementation of sorting is not yet fully effective due to the main obstacles being community habits and the lack of strong collective awareness. Although most residents understand waste classification, substantive compliance is still influenced by old behavioral patterns and low internal motivation, resulting in less than optimal implementation.

Factors Inhibiting Implementation.

a) Systemic Factors: Obstacles lie not in the lack of regulations or facilities, but rather in the suboptimal effectiveness of operational governance, consistent control, and the sustainability of institutional management in ensuring the policy is implemented measurably and sustainably.

b) Social Factors: Obstacles are predominantly influenced by the lack of a strong environmental legal culture and active community participation, resulting in a gap between prevailing norms and waste sorting practices in the field.

Recommendations.

1) To the Siangan Village Government. The Siangan Village Government is advised to strengthen the effectiveness of the implementation of source-based waste sorting by improving the quality of institutional governance and consistent operational oversight of the Waste Management System (TPS3R). Established village regulations need to be implemented in a more measured manner with periodic evaluation mechanisms, strengthened coordination between village

institutions, and a more robust system of incentives and disincentives. Furthermore, increasing the human resource capacity of TPS3R managers through technical training and strengthening operational management is a strategic step to maintain the system's sustainability. The village government also needs to integrate a sustainable educational approach so that implementation is not solely administrative but also fosters substantive community compliance.

2) To the Siangan Village Community. The Siangan Village community is expected to increase awareness and actively participate in waste sorting at the source as a form of collective responsibility for the village's environmental sustainability. Waste sorting should not be viewed merely as a formal obligation, but rather as part of an environmental legal culture that needs to be internalized in everyday life. Furthermore, communities are encouraged to develop creativity and innovation in waste management, such as utilizing household compost and processing inorganic waste into valuable products. It ensures that the source-based sorting system not only has ecological impacts but also provides sustainable social and economic benefits.

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